

## 5 RESULTS

Surveys were completed during the period of September 9 through 30, 2003, at a river discharge of approximately 200 to 290 cubic feet per second (cfs; U.S. Geological Survey Gauge #12113000, Green River near Auburn, Washington, approximately RM 32). The locations of the 300 m stations surveyed are shown in Figure 2-1. The complete dataset of observations made in this survey is provided in Appendices A, B, and C. Appendix A provides the station data collected during the survey. Appendix B provides the pool data collected. A complete set of GIS shapefiles for all data collection activities were also provided electronically. Appendix C provides a composite table of the summary statistics for each reach. These statistics are also provided separately for each reach in the main report.

Station data are provided for each reach in a series of figures using an identical format. Figure 5-1a is a key to assist in the interpretation of these figures, particularly to help distinguish between DGPS point data and parameter data pertaining to an entire 300 m segment.

### 5.1 Overview of Conditions in the Survey Area

Pools are more abundant in the upper portions of the Lower Green River, particularly in Reaches 1 (RM 32 to RM 26.6) and 2 (RM 26.6 to RM 19.1), than in the downstream reaches (Figure 5-1b). Large pools (i.e., pools covering more than 50 percent of the OHWM width) were most numerous in Reaches 1 and 2. Small pools (i.e., pools covering between 25 and 50 percent of the OHWM width) were most numerous in Reach 2, but were scattered throughout the lower reaches of the survey area.

Shoreline armoring percentages were highly variable along the left and right banks of the survey area (Figure 5-2). Shoreline armoring was more prominent along the outside bank at bends in the river than along the inside bank. Along the upstream portion of Reach 1, a higher percentage of armoring was found on the left bank than on the right, however in the downstream portion of Reach 1 the opposite was true. In fact, the downstream portion of Reach 1 contains the longest continuous stretch of river with less than 5 percent armoring in the entire survey area.

Riparian vegetation from the OHWM to the top of the bank was dominated by invasive species throughout most of the survey area, particularly downstream of Reach 1 (Figure 5-

3). Himalayan blackberry and reed canarygrass were the most abundant invasive vegetation species, although Japanese knotweed was also commonly observed. Reach 1 had a significant amount of mature native vegetation, particularly along the right bank. In the downstream portion of Reach 1 where little shoreline armoring was identified, mature native trees dominate the riparian vegetation.

Riparian vegetation quality in the survey area reflected the findings of the vegetation types. High quality vegetation was limited almost exclusively to Reach 1 (Figure 5-4). Vegetation quality in the remainder of the survey area was a mix of low and medium quality.

Canopy cover measurements also indicated that overhanging riparian conditions in Reach 1 were generally less impaired than in the downstream reaches (Figure 5-5). One exception was in the upper portion of Reach 5 (RM 11.2 to 9.7), just downstream of the confluence of the Black River, where several stations were found to have a relatively high percentage canopy cover (greater than 50 percent), particularly in comparison to all other areas below Reach 2.

LWD was most plentiful in Reaches 2 and 3 (RM 26.6 to 19.1 and RM 19.1 to 15.6, respectively) (Figure 5-6). Reach 5 (RM 11.2 to 5.7) had some stretches with relatively abundant LWD. Reaches 1 and 4 (RM 32.1 to 26.6 and RM 15.7 to 11.2, respectively) had the least amount of LWD.

Fig 5-1a

Fig 5-1b

Fig 5-2

Fig 5-3

Fig 5-4

Fig 5-5



Insert figure 5-6